

REMARKS

Claims 1-11 are in the application.

Claims 1, 3-8 and 10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Koga, et al. (5,839,800). Regarding Claims 1 and 10, the Examiner states that Koga teaches a brake controller, 5, for determining the desired rate of deceleration 9 from sensor outputs 15, as well as a regenerative braking system, 4, commanded by the brake controller, to produce a braking torque corresponding to the desired rate of deceleration. The Examiner continues with the statement that Koga discloses a primary speed sensing system, 15, for determining speed and deceleration of the vehicle, further describing deceleration sensor 15 and a brake monitor 9 for receiving sensor inputs from the operator and for determining an audit range of deceleration. The Examiner continues with the observation that Koga discloses a friction braking system, 24.

The Examiner asserts that Koga teaches a combined speed sensor and pendulum sensor for use in determining deceleration, but admits that Koga lacks the teaching of comparing two values to a target deceleration. The Examiner argues, instead, that it would have been obvious to one of ordinary skill of the art at the time of the invention was made to have compared deceleration values derived from a speed sensor and a pendulum sensor to a target deceleration value. Applicant respectfully traverses this rejection and requests that Claims 1, 3-8 and 10 be reconsidered in view of these remarks and passed to issue over the Examiner's rejection.

Applicant respectfully submits that the Examiner's assertion that Koga teaches the use of two sensors for determining deceleration in the same system is in error. The citation of Koga at column 6, lines 57-64 teaches that alternative types of sensors may be used, e.g., deceleration detected by detecting a displacement of a weight, or by differentiating the rotational speed of a wheel or propeller shaft. As yet another alternative, Koga teaches that detection and calculation may be made in combination. Koga finishes with the statement that "any known G sensor can be adopted insofar as it can detect a deceleration of a vehicle." In other words, Koga teaches nothing regarding the use of redundant deceleration sensing, and the Examiner is in error when he asserts that Koga teaches the simultaneous use of more than one sensor. As a result, Applicant's claimed invention, which includes a brake controller, a regenerative braking system,

a primary speed sensing system and primary comparator, a brake monitor, and a redundant deceleration sensor coupled with a secondary comparator, is clearly neither taught nor suggested by Koga. As a result, Claims 1, 3-8 and 10 should be passed to issue over the Examiner's rejection. Such action is earnestly solicited.

Regarding Claims 3-4, the Examiner cites Koga at column 6, lines 57-64, as described above. However, as noted above, Koga fails to teach the use of more than one deceleration sensor in a system. Rather, Koga discusses alternative sensors. As a result, Claims 3-4, which depend from Claim 1, are allowable over the Examiner's rejection and should be passed to issue. Such action is earnestly solicited.

Regarding Claims 5-6, the Examiner states that "it would be obvious to make the speed sensor or the pendulum sensor, the primary speed sensing system merely because they are functional equivalent (sic) of sensing deceleration and it would be a matter of design choice, etc.. However, as noted above, Claim 1 is allowable over Koga as are Claims 5 and 6 which depend therefrom; therefore, these claims as well should be passed to issue over the Examiner's rejection. Such action is earnestly solicited.

Regarding Claims 7-8, the Examiner states that Koga uses an accelerator pedal sensor. Nevertheless, Claims 7-8 depend from Claim 1, which is allowable over Koga and each of these claims should be passed to issue. Such action is earnestly solicited.

Claim 2 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Koga in view of Byrne, et al. (4,094,555). The Examiner states that Koga lacks the teaching of comparing the output of the deceleration sensor with a lower and upper deceleration target. The Examiner asserts that Byrne teaches comparing the output of a decelerometer with an upper and lower deceleration target value, and finishes with the argument that it would have been obvious to one of ordinary skill at the time the invention was made to have compared the deceleration sensor of Koga with an upper and lower target value in order to maintain control of the vehicle and to increase stability. Applicant respectfully traverses this rejection and requests that Claim 2 be reconsidered in view of these remarks and passed to issue over the Examiner's rejection.

As noted above, Claim 1 is clearly allowable over Koga. Although Byrne teaches use of decelerometer with an upper and lower target values, Byrne teaches nothing regarding the use of a redundant deceleration sensor and a secondary comparator for receiving the results of the data from the redundant deceleration sensor. As a result, Claim 2, as well, is allowable over the Examiner's rejection and should be passed to issue. Such action is earnestly solicited.

Claims 9 and 11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Koga in view of Crombez, et al. (6,655, 754). The Examiner admits that Koga lacks the teaching of a warning mechanism for a driver and that Crombez teaches a warning indicator. The Examiner argues that it would have been obvious to one of ordinary skill in the art at the time the invention is made to have provided the brake system of Koga with a warning indicator as taught by Crombez in order to provide a driver with an indication that a failure may have occurred in the brake system.

Applicant respectfully traverses this rejection and requests that each of Claims 9 and 11 be reconsidered in view of these remarks and passed to issue over the Examiner's rejection.

Applicant respectfully submits that neither Koga nor Crombez, whether taken singly or in combination with each, either teach or suggest Applicant's claimed invention because Crombez teaches nothing regarding use of a redundant deceleration sensor coupled with a secondary comparator which is operatively connected with the brake monitor for comparing an audit range of deceleration with output from a redundant deceleration sensor and for providing additional braking in the event that comparison results from the secondary comparator indicate that regenerative braking is not producing a commanded rate of deceleration. As a result, Claims 9 and 11 are clearly allowable over the Examiner's rejection and should be passed to issue along with Claims 1-8 and 10. Such action is earnestly solicited.

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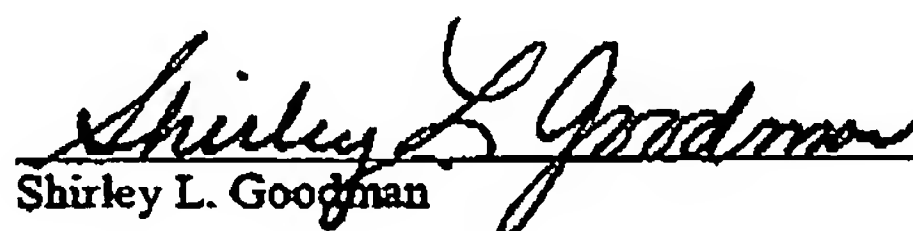
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CERTIFICATE OF MAILING

I hereby certify that the enclosed Amendment is being faxed via (703) 872-9306 to Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 3rd day of June, 2005.


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